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Results of Kaua'i air sampling study released

WAIMEA – The County of Kaua'i and the state Department of Agriculture today released a report on environmental health issues in Waimea.

Funded by both the county and the state, the study was conducted by a research team comprised of Dr. Qing X. Li, Jun Wan, and Robert Boesch from the University of Hawai'i, Department of Molecular Biosciences and Bioengineering.

The Kauai County Council appropriated funds for the study following several incidents at Waimea Canyon Middle School (WCMS) that occurred between 2006 and 2008, when a number of students and staff sought medical treatment for flu-like symptoms believed to be caused by unidentified odors at the school.

The study was designed to determine what chemicals are present in the ambient air of Waimea that may have caused the victims' symptoms.

Researchers used a combination of passive air and high volume air sampling that were collected between September 2010 and June 2012 at WCMS and four additional school sites on Kaua'i, including: Hanalei Elementary School; Kalāheo Elementary School; Kapa'a High School; and Kanuikapono Learning Center.

The sampling focused on pesticides commonly used in the area surrounding WCMS, as well as chemicals emitted by a common local plant known as stinkweed or *Cleome gynandra*, which is also found in Waimea.

“The conclusion drawn from the studies is that the concentrations of the pesticides and other chemicals found in the samples were well below health concern exposure limits or applicable screening levels,” said Director of Economic Development George Costa. He noted that the methodology used in the studies followed the same standards utilized by the State of California for chemical analyses of air samples for pesticides.

“The method of chemical detection used in the study called gas chromatography-coupled mass spectrometry is highly sensitive and can detect very low concentrations of chemicals,” said Costa.

Concentrations of chlorpyrifos, metalochlor, and methyl isothiocyante identified in the ambient air at study sites on Kaua'i were approximately 24-, 650-, and 220-fold below the California screening levels.

About half of the 29 chemicals produced by the stinkweed were detected in indoor and outdoor air samples from passive air samplers and high volume air samplers placed at Waimea Canyon Middle School and other Kaua'i schools.

Five pesticides were detected in the indoor and outdoor passive air samples and high volume outdoor air samples collected at WCMS. Two of the five pesticides, likely from past uses, were detected in all the air samples collected on Kaua'i.

Prior to the start of the air quality studies, technical and advisory committees were formed to provide input on the objectives, study plan, progress, and results.

The technical committee included representatives of the following organizations: state Department of Agriculture (DOA); County of Kaua’i (COK); state Department of Education (DOE); U.S. Environmental Protection Agency; University of Hawai'i; Waimea Canyon Middle School; as well as members of the agricultural community.

Representatives of the following agencies served on the advisory committee including: DOA; COK; DOE; WCMS; along with members of the agricultural community and the general public.

To view the complete results of the study, please go to the homepage of the county's website, www.kauai.gov, and click on the respective link in the What's New section.

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